NEWSLETTER

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Volume 20
Number 1
April 1982

CONTENTS

News and Views.....3
Book Review.....5
1981 A.G.M. Minutes.....8

AUSTRALIAN SOCIETY FOR LIMNOLOGY

The Australian Society for Limnology is an association of over 425 people with professional or amateur interests related to Australian inland waters. Since its inception in 1961 the Society has played an important role in fostering limnological work in this country. The ASL promotes liaison between limnologists in academic, private and governmental institutions and has a vested interest in the conservation of aquatic and related resources. Annual congresses are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL produces a *Newsletter* with notes on activities, articles of general interest, book reviews and congress announcements; a *Bulletin* of original scientific papers and occasional *Special Publications*. A further publication is the *Directory of Australian Limnologists*.

Membership applications are welcomed; four classes of subscribing membership are available:

Ordinary members	$10.00 p.a.
Student members	$4.00 p.a.
Institutional members	$10.00 p.a.
Sustaining members	Fees on application

Members are entitled to receive the Australian Journal of Marine and Freshwater Research at the reduced rate of $15.00 p.a.

Membership subscriptions cover the period 1 July to 30 June but subscriptions for Aust. J. mar. Freshwat Res. cover the period 1 January to 31 December.

Enquiries relating to membership should be addressed to:

Mrs. M. Hart,
Secretary, ASL.,
C/- Department of Chemistry,
Caulfield Institute of Technology,
P.O. Box 197,
Caulfield East, Victoria,
Australia 3145.

ASL Executive 1980-81

President: Frank Burns

Past-President: Sam Lake

Vice-President: David Mitchell

Secretary/Treasurer: Margaret Hart

Committee:
The Officers of the Society and:
Ian Campbell
Max Finlayson
Leighton Llewellyn
Luisa MacMillan
David Pollard
Phillip Suter
Robert White

Newsletter Editor:

R.W.G. White,
Department of Zoology,
University of Tasmania,
Box 252C, G.P.O.
Hobart, Tasmania,
Australia 7001.

NEWS AND VIEWS

E.S.A. in Darwin in 1983

The Ecological Society of Australia will hold a symposium of the ecology of the wet-dry tropics in Darwin on 15-17 May 1983. Further details from:

Dr. M.G. Ridpath,
E.S.A. Symposium & Forum 83,
CSIRO, PMB44
WINNELLIE, N.T. 5789.

1981 Presidential Address

Enclosed with this Newsletter is a reprint of Sam Lake's Presidential Address delivered at the Narooma Congress. This was published in "Australian Fisheries".

Russian Limnologist Arrives in Australia

Dr. V.N. Sergeev, who has carried out extensive work on the morphology and ecology of cladocerans, has recently settled in Australia. He may be contacted at the Department of Zoology, University of Adelaide until 15 December 1982.

Conference on Hydrology, Water Resources and Forest Hydrology

This conference will be held at Melbourne University on 11-13 May 1982. Topics to be discussed include:

- logging of mountain ash forests in Victoria,
- woodchipping dry sclerophyll eucalypt forests near Eden, N.S.W.,
- logging tropical rainforests in North Queensland.

Further details from:

Dr. K.J. Langford,
C/- Water Supply Division, MMBW,
625 Little Collins Street,
MELBOURNE, Victoria 3000

Telephone: (03) 615 4447

Welcome!

Welcome to the following members who have joined A.S.L. recently:

Andrew Boulton
Alan Chick
Jane Moller
Shirley Bella
David Robinson
Phil Sinclair
Daryl Evans
John Reynolds
Margaret Keck

A.G.M. Motion

Luisa MacMillan and Ian Campbell will move the following motion at the Griffith's Congress.

"That this AGM requests the incoming executive to prepare an ASL position document which

a. describes and assesses the limnological significance of South West Tasmania
b. evaluates the impact on limnological resources of proposed developments in South West Tasmania".

New Publications from the Centre for Environmental Studies

Exploited and Endangered Wildlife: Population Management of Wallabies, Possums, Mutton Birds, Cape Barren Geese and Forester Kangaroos in Tasmania is Occasional Paper 12 by various authors and edited by R. Jones. This is the first book to be published on wildlife management in Tasmania. Details are given on some of Tasmania's most numerous species such as the mutton birds, the possums and the wallabies. All of these animals are exploited and all have to be managed by the Wildlife Division of the National Parks and Wildlife Service. The book tells how the Wildlife Division obtains its information on these wild populations and how it has to continually monitor their numbers to make decisions about annual licences, harvest seasons and protection.

Two other special animals are featured; the Cape Barren Goose and the Forester Kangaroo are two species in special need of protection in Tasmania. It describes the biology of these species, the knowledge we have about their populations and the management techniques that are used based on the best data available. In all, the book is a valuable aid to anyone who might have an interest in native animal populations. It has 229 pages and recommended retail price is $10.00. It can be purchased by mail at an inclusive price of $13.50.

The Conservation Status of Heard Island and the McDonald Islands by P.L. Keage is Occasional Paper 13 published by the Centre. Heard Island and the McDonald Islands are Australia's only sovereign Territory in the Southern Indian Ocean. This subantarctic island group 4100 kilometres south-west of Perth is heavily glaciated for most of its area; thus, geographical remoteness, harsh climate and rugged terrain are the features which have prevented permanent settlement and precluded development of the Islands by humans. As the last unspoilt unit representative of the subantarctic biome, Heard Island and the McDonald Islands are thus of outstanding universal value. This book draws attention to the conservation status of subantarctic Heard Island and the McDonald Islands which are governed by Australia. It focuses on reform options to upgrade nature protection which may be pursued by the Australian Government. The book has 100 pages and the recommended retail price is $8.00. It can be purchased by mail at an inclusive price of $9.50. Both books are available from:

Centre for Environmental Studies,
University of Tasmania,
Box 252C, G.P.O.,
Hobart, Tasmania,
Australia...7001

Cheques, money orders, etc. payable to "University of Tasmania".

BOOK REVIEW

BIOGEOGRAPHY AND ECOLOGY OF NEW GUINEA

J.L. Gressitt (Ed.), 1982. 2 vols, 983 pp. Monographiae Biologicae Vol. 42. Dr. W. Junk Publishers, The Hague. Price unavailable.

Reviewed by T. Petr.

This monograph is the best and most comprehensive book so far on the topic. The zoogeographical approach dominates, with evolution, colonization and diversity connecting the biological aspects. The geographical scope of this monograph is the entire island of New Guinea, and the immediately neighbouring islands with essentially similar biota.

The monograph is published in two volumes, and the contents divided into seven major parts: (1) General and physical background; (2) Man and his impact on the environment; (3) Vegetation and flora; (4) Invertebrate fauna; (5) Vertebrate fauna; (6) Biogeographical summaries; (7) Conservation. There are 45 individual chapters written by 45 contributors. With the exception of a chapter on freshwater decapod crustaceans, no other chapter deals entirely with limnology, but a number of contributions relate to it, and in fact, are essential for interpretation of the limnological findings.

New Guinea has a whole range of altitudinal zones, extending between that of the permanent glaciation of its highest peaks, to lowland mangrove swamps. As the limnochemistry of New Guinea is in many parts rock-dominated, it is of importance to understand geology and lithology (chapters by Pieters, Löffler), soils (Wood), vegetation cover (e.g. Smith, Johns), erosional aspects, man's activities and conservation (Wood, Gagne and Gressitt) - all of which are related to the dissolved and particle bound chemical components transported by rivers draining this high rainfall, humid tropical environment. Löffler summarizes the history and the present day glaciation features of the highest mountain areas of the island. Much of the present knowledge has been derived from Australian University expeditions to Irian Jaya, and work carried out from the Australian National University research station in Pindaunde Valley on Mt. Wilhelm in PNG. However, little is said about the limnological investigations of moraine lakes, which, although of expeditionary character and based on limited sample collections, resulted in a number of scientific papers.

A detailed and otherwise exhaustive account of the history of biological exploration (Frodin and Gressitt) avoids the aquatic environment, mentioning only an odd collection of crustaceans in 1889, and poor fish collections by the Archbold expeditions. The best existing historical review of fish exploration given by Munro (1967) in his book on The Fishes of New Guinea is sadly omitted in the list of references.

Stone in his valuable account of New Guinea Pandanaceae - a truly difficult group to identify - mentions an interesting microhabitat of pandan leaf axil, which retains water. A chemical study of this habitat would appear desirable in that it harbours mosquito larvae with possible medical significance. Pandan fruit is also eaten by turtles and, as some current investigations have shown, by ariid catfish. The chapter on freshwater crustaceans (Holthuis) includes history of collections, taxonomy and zoogeography of the decapod shrimps Atyidae and Palaemonidae, the crayfish Parastacidae, and the crabs Sundathelphusidae, Grapsidae and Hymenosomatidae. Most of the New Guinea freshwater decapods belong to genera with a wide distribution throughout the Indo-West Pacific, and *Cherax* and *Holthuisana* have clear affinities with Australia.

The relatively recent intensification of biogeographical investigations is apparent from the account of Amphibia (Zweifel and Tyler): nearly half the specimens of frogs currently recognised in New Guinea were described since 1945! The evolution and radiation of New Guinea frogs into a high diversity of ecological niches gives opportunities to further studies of evolution such as convergence, parallelism, niche partitioning and biogeography.

In the zoogeographical summary Gressitt points out the general poverty of freshwater animals in New Guinea. Some New Guinea vertebrate and invertebrate aquatic species are also known from northern Australia, but the poor knowledge of them probably equals that of New Guinea species. The practical significance of exotic introductions is briefly discussed, giving examples of *Salvinia molesta*, cane toad and giant African snail, but not getting deep enough to highlight the tragic consequences of *S. molesta* for the villages along the Sepik River.

The coastal marine environment is covered by chapters on sea grasses (Johnstone) and mangroves (Johnstone and Frodin). The mangroves are dealt with mostly on the basis of the knowledge from PNG, as mangroves of Irian Jaya (now estimated to cover nearly 2 million hectares) are poorly known. Johnstone has put forward an interesting speculation on the role of salinity for the biomass and growth of mangroves, suggesting that on high rainfall coasts the standing

crop is far greater than on coasts subject to low rainfall.

In conclusion, one has to agree with Gressitt that the freshwater environment of this island so rich in this habitat, is sadly neglected. Perhaps it would deserve a special publication. In spite of the modesty of the editor and authors, who stress the lack of data and a need for further studies, the book shows the increasing intensity and quantity of studies, now carried out almost entirely in Papua New Guinea from centres such as Wau Ecology Institute, University of PNG, University of Technology and some others. The book, which is richly illustrated by numerous black and white photographs and high quality scientific drawings, usefully complements the Australian monograph edited by Keast (1981) and published in the same series.

1981 AGM MINUTES

Minutes of the 20th Annual General Meeting held at Narooma High School, Narooma on Sunday 24 May 1981.

1. The meeting opened at 4.20 p.m.

2. The agenda was adopted.

3. Apologies were received from:

   I. McKelvie, I. Bayly, W. Williams, R. White, I. Hiscock, P. Tyler, J. Powling.

4. Correspondence

   I. Campbell reported that much of the correspondence was of a routine nature. Three items which required disucssion were listed under 'Other Business'.

5. President's Report

   The year 1980-81 has been one of consolidation for A.S.L. There have been four meetings of the Executive Committee. Three newsletters and one special publication have been produced. The A.S.L. Special Publication No. 4 "Morphometric Analysis of Tasmanian Freshwater Bodies" by J.A. Peterson and J.E. Missen was initiated by a grant given to A.S.L. in 1965 by the Tasmanian Inland Fisheries Commission. Its production was also supported by a grant from the Australian Water Resources Council.

   In Victoria, the local chapter has been very active largely through the good work of John Blyth. There have been four meetings this year with topics ranging from forestry and the Melbourne water catchments to the possible introduction of Quinnat Salmon into the Yarra.

   Along with many other scientific societies we have been involved in negotiations with the Australian Academy of Science on the structure of their National Committees. The Australian Society for Limnology is now represented on the following National Committees: Environment, Animal and Veterinary Sciences; Plant Sciences; Hydrology.

   Members of A.S.L. are informed that at the forthcoming XV Pacific Science Congress, to be held in Dunedin, New Zealand in 1983, an extensive section on Freshwater Sciences is planned.

   This is the first year of the A.S.L. Student Award. There are seven entries all of a good standard. Such a success in the first year bodes well for the future.

   I would like to thank the members of the Executive Committee for their help throughout the year. And finally for their immense help in organ-

izing such a successful conference. I am sure that you all will join with me in thanking Richard and Sally Tilzey and Barbara Richardson.

6. Secretary's Report

I. Campbell thanked Ms. Helen Clausen for her assistance during the year. He noted that she was responsible for all the things which had been carried out efficiently whilst he was responsible for those that had been stuffed up. He also thanked Mrs. Stella Harris who had typed reams of Society minutes and correspondence during the year.

7. Treasurer's Report

The financial report for the year was tabled.

8. Auditor's Report

The auditor's report was read and accepted. Ian Hiscock was reappointed auditor for 1981-82.

9. Editor's Report

Newsletter: A number of changes have been instigated during the last year. The format of the Newsletter has been reduced from A4 to A5. The new format is cheaper to produce and post, as well as being easier to handle, both by the dispatcher and the recipients. The new format has been well received and I recommend that it be continued. I have changed the volume issue period from the membership year to the calendar year. Although this means that new members start their Newsletter-run in mid volume, I can see no sense in the Newsletter volume spanning anything but the calendar year. From 1981 (volume 19) it is necessary to produce four issues of the Newsletter per year in order to maintain our Category B status with Australia Post, and so gain the advantage of very reduced postal charges. From 1st July 1981, Category B publications are subject to annual registration.

Three issues have been distributed since the last A.G.M.: Volume 18(1) in September 1980, 19(2) in December 1981 and 19(1) was posted today, (19th May 1981).

In common with previous editors, I have experienced problems in obtaining copy from members, although, during the last month, a couple of articles have been forthcoming. Ian Campbell, Sam Lake and Bill Williams have regularly forwarded information they have received. Finally, Ian Bayly made my task considerably easier by sending two substantial and unsolicited book reviews.

I would be pleased to continue as Newsletter Editor during the coming year.

Bulletin: Despite promptings at the last A.G.M. and in the Newsletter, very few papers have been submitted for the Bulletin. Two authors sent papers with requests as to their suitability for the Bulletin. One was returned with a suggestion for a different form of publication, the other was returned with a request that it be modified and resubmitted as a

possible Special Publication.

Two other papers were received. One has been returned with a request for changes as suggested by the referee. The second is still with the referee.

I suppose that we are obliged to produce one more issue of the Bulletin. I would submit, however, that there is inadequate demand to warrant the continuation of the Bulletin. Australia is reasonably well served by journals publishing limnological works. These vary from those of full international standing down to those of local interest and circulation. I cannot see therefore, the exact role the Bulletin is expected to play. For any journal to be successful I would anticipate that it should be published regularly, i.e. at least annually, and be sold well beyond the membership of the Society. On neither point does the Bulletin qualify; nor do I see any expectation of the situation changing over the next few years. Accordingly, I propose that the Society discontinue the publication of the Bulletin.

Future Publication Policy: I propose that the Society has two publications; the Newsletter and Special Publications. Perhaps the name of the Newsletter could be changed to indicate a higher status (A.M.S.A. use the title Bulletin for their equivalent of our Newsletter).

I also propose that the Society has a single editor responsible for all publications. This would introduce some standardisation to our publications (e.g. use of logo, etc.). It would also avoid some of the recent problems (e.g. undated publications) which are inevitable when each Special Publication is organized by a different person. The editor should be assisted by an editorial committee of not less than three members. This committee should work independently within guidelines laid down by the A.G.M. and/or Executive and within a budget granted by the Executive.

I offer myself as editor and the printing facilities of the University of Tasmania to produce the Society's publications.

The report was accepted by the meeting. However, after some discussion it was agreed that the Bulletin should be continued for at least a further year before reaching a decision and that, in that time, a greater effort be made to attract papers, especially short communications, to it.

10. Jolly Award Committee Report: This year we have a successful nomination for the award. The committee unanimously agrees that the award should be given to Dr. John Kirk. John Kirk, M.A., Ph.D., D.Sc., is a Senior Principal Research Scientist at the Division of Plant Industry, CSIRO. He is in the Plant Biochemistry Section of the Division and is engaged in research on the primary productivity of aquatic ecosystems and the biochemistry of chloroplasts and seed proteins. Within CSIRO he is a rare type of scientist - a limnologist. It is in the field of the theoretical and practical treatment of the problem of light attenuation in natural waters that John has made a most significant contribution to limnology, both in an Australian and an international context.

In a series of papers beginning in 1974, John has examined the attenuation of light, particularly the photosynthetically active radiation of

light component in marine and inland waters. He has established the important roles that gilvin (previously called yellow substance or gelbstoff) and Tripton (suspended soil particles) plays in the attenuation of light in Australian inland waters. John's work is a sophisticated blend of theoretical modelling and practical testing of phenomena and involves knowledge of a range of disciplines from quantum physics to aquatic botany.

On behalf of the Australian Society for Limnology, the Jolly Award Committee has much pleasure in presenting the Jolly Award to Dr. John Kirk.

11. Student Award Committee Report: Keith Walker commented that the decision of the committee had been extremely difficult because of the very high standard of student papers. The first student prize was awarded to Rod Oliver for his paper "A biological interpretation of phytoplankton photosynthetic production as a function of light absorbance".

12. Venue for 21st Congress: The meeting was evenly split between Mt. Gambier (S.A.) and Griffith (N.S.W.) as venues for the 21st Congress. The final decision was left to the Executive.

13. Election of Office Bearers: The following were elected unopposed.

President	Frank Burns
Vice-President	David Mitchell
Secretary/Treasurer	Margaret Hart
Committee Members	Max Finlayson
	Phil Suter
	Ian Campbell
	Luisa Macmillan
	Leighton Llewellyn
	Dave Pollard
	Rob White

14. Other Business

(a) Life Membership. Ian Campbell reported that one overseas member had suggested the Society introduce life memberships since this would simplify payments for overseas members who currently have to go to the trouble of arranging bank cheques in Australian currency. There could also be financial advantages to the Society if the charge was set at an appropriate level. The general feeling of the meeting was that, as long as the treasurer did not feel it would be creating too much additional work the Executive should suggest a rate and the appropriate constitutional changes for the 21st A.G.M.

(b) Pacific Science Congress. Ian Campbell read a letter from Dr. S. Mitchell inviting the Society to hold its 1983 annual meeting in conjunction with the Pacific Science Congress in Dunedin in February 1983. The meeting felt that, due to cost of travel, it would not be appropriate to have the annual meeting in Dunedin but that the Society should publicize the meeting and encourage members to attend and, if necessary, to help organize a group which could qualify for reduced airfare rates.

(c) Australian Biological Resources Survey. Ian Campbell read a letter from Dr. Richardson, of the ABRS indicating that the survey would welcome suggestions of priority freshwater data for taxonomic study from the Society. Ian Campbell and Sam Lake were nominated to prepare a list.

(d) Voucher System. John Blyth reported that the Victorian Chapter of the ASC was instituting an identification system for groups of macroinvertebrates for which keys and descriptions do not yet exist. The system would be based on a numbered set of voucher specimens and would provide a consistent basis for identification. It was intended initially to concentrate on Victorian species and, depending on support in that state, later to expand to incorporate other states. Those interested could contact him at the National Museum in Melbourne for details.

Meeting closed at 5.45 p.m.